

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Original claims 1-9 (cancelled).

Claim 10 (new): A ventilation system for exchanging outside air with air in a room, comprising:

a fine wire heat exchanger formed with first and second channels configured in heat-exchanging contact and each defined with respective inlets and outlets, and arranged to have the first channel inlet and the second channel outlet to be in fluid communication with the outside air, and the first channel outlet and the second channel inlet to be in fluid communication with the air in the room; and

a means for balancing respective flows of air through the first and second channels to maximize heat exchange between the respective flows.

Claim 11 (new): The ventilation system according to claim 10, wherein the means for balancing comprises:

a first ventilator in fluid communication with the first channel;
a second ventilator in fluid communication with the second channel;
a first temperature sensor in fluid communication with the first channel outlet;
a second temperature sensor in fluid communication with the second channel inlet; and

a controller in communication with the first and second temperature sensors and adapted to control the first and second ventilators, whereby temperatures sensed by the first and second temperature sensors are approximately equal.

Claim 12 (new): The ventilation system according to claim 10, wherein the means for balancing comprises:

a ventilator in fluid communication with the first channel;
a ventilator in fluid communication with the second channel;
a first temperature sensor in fluid communication with the first channel inlet;
a second temperature sensor in fluid communication with the second channel outlet; and

a controller in communication with the first and second temperature sensors and configured to control the first and second ventilators, whereby temperatures sensed by the first and second temperature sensors are approximately equal.

Claim 13 (new): The ventilation system according to claim 12, further comprising:

a third temperature sensor in fluid communication with the first channel outlet; a fourth temperature sensor in fluid communication with the second channel inlet; and

wherein the controller is further in communication with the third and fourth temperature sensors and is further configured to control the first and second ventilators, whereby a first temperature difference between the first and third temperature sensors is approximately equal to a second temperature difference between the second and fourth temperature sensors.

Claim 14 (new): The ventilation system according to claim 10, wherein the means for balancing comprises:

a first double-acting cylinder incorporating a first piston defining first and second chambers;

a second double-acting cylinder including a second piston connected to the first piston and defining third and fourth chambers;

whereby displacement of the first piston to enlarge the first chamber thereby enlarges the third chamber; and

wherein the means for balancing is further defined with an inlet and an outlet and a means for controlling fluid communication between:

- a. the first channel with the first and fourth chambers;
- b. the second channel with the second and third chambers;
- c. the inlet with the second and third chambers; and
- d. the outlet with the first and fourth chambers.

Claim 15 (new): The ventilation system according to claim 14, further comprising:

at least one ventilator in fluid communication with one or more of the group that includes the inlet, the outlet, the first channel, and the second channel.

Claim 16 (new): The ventilation system according to claim 14, further comprising:

a means for driving at least one of the first and second pistons.

Claim 17 (new): The ventilation system according to claim 16, wherein the means for driving further incorporates at least one linear motor.

Claim 18 (new): The ventilation system according to claim 10 and adapted for cleaning in a dishwasher, wherein the heat exchanger is removably configured to have dimensions enabling receipt within the dishwasher.

Claim 19 (new): The ventilation system according to claim 10, wherein the heat exchanger is configured to have a length, a width, and a height each less than about 0.55 meters.

Claim 20 (new): A ventilation system adapted to be integrally mounted in a façade wall of a room and configured for communicating air inside the room with outside air through the façade wall, comprising:

a fine wire heat exchanger formed with first and second channels, configured in heat-exchanging contact and each defining respective inlets and outlets, and arranged to have the first channel inlet and the second channel outlet to be in fluid communication with the outside air, and the first channel outlet and the second channel inlet to be in fluid communication with the air in the room; and

a means for balancing respective flows of air through the first and second channels to maximize heat exchange between the respective flows.

Claim 21 (new): The ventilation system according to claim 20, wherein the means for balancing comprises:

a first ventilator in fluid communication with the first channel;

a second ventilator in fluid communication with the second channel;

a first temperature sensor in fluid communication with the first channel outlet;

a second temperature sensor in fluid communication with the second channel inlet; and

a controller in communication with the first and second temperature sensors and adapted to control the first and second ventilators, whereby temperatures sensed by the first and second temperature sensors are approximately equal.

Claim 22 (new): The ventilation system according to claim 20, wherein the means for balancing comprises:

a ventilator in fluid communication with the first channel;
a ventilator in fluid communication with the second channel;
a first temperature sensor in fluid communication with the first channel inlet;
a second temperature sensor in fluid communication with the second channel outlet; and

a controller in communication with the first and second temperature sensors and configured to control the first and second ventilators, whereby temperatures sensed by the first and second temperature sensors are approximately equal.

Claim 23 (new): The ventilation system according to claim 22, further comprising:

a third temperature sensor in fluid communication with the first channel outlet;
a fourth temperature sensor in fluid communication with the second channel inlet; and

wherein the controller is further in communication with the third and fourth temperature sensors and is further configured to control the first and second ventilators, whereby a first temperature difference between the first and third temperature sensors is approximately equal to a second temperature difference between the second and fourth temperature sensors.

Claim 24 (new): The ventilation system according to claim 20, wherein the means for balancing comprises:

a first double-acting cylinder incorporating a first piston defining first and second chambers;

a second double-acting cylinder including a second piston, connected to the first piston, and defining a third and a fourth chamber;

whereby displacement of the first piston to enlarge the first chamber thereby enlarges the third chamber; and

wherein the means for balancing is further defined with an inlet and an outlet and a means for controlling fluid communication between:

- a. the first channel with the first and fourth chambers;
- b. the second channel with the second and third chambers;
- c. the inlet with the second and third chambers; and
- d. the outlet with the first and fourth chambers.

Claim 25 (new): The ventilation system according to claim 24, further comprising:

at least one ventilator in fluid communication with one or more of the group that includes the inlet, the outlet, the first channel, and the second channel.

Claim 26 (new): The ventilation system according to claim 24, further comprising:

a means for driving at least one of the first and second pistons.

Claim 27 (new): A ventilation system for mounting in a wall of a room, the wall having a thickness, and the ventilation system being configured to communicate air inside the room with air outside the wall, comprising:

a fine wire heat exchanger, configured with a cross-sectional thickness that is approximately equal to the wall thickness, and formed with first and second channels in heat-exchanging contact, the channels being defined with respective inlets and outlets, and wherein the first channel inlet and the second channel outlet are in fluid communication with the outside air, and wherein the first channel outlet and the second channel inlet are in fluid communication with the air inside the room; and

a means for balancing respective flows of air through the first and second channels to maximize heat exchange therebetween.

Claim 28 (new): The ventilation system according to claim 27, wherein the means for balancing comprises:

a first ventilator in fluid communication with the first channel;
a second ventilator in fluid communication with the second channel;
a first temperature sensor in fluid communication with the first channel outlet;
a second temperature sensor in fluid communication with the second channel inlet; and

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a controller in communication with the first and second temperature sensors and configured to control the first and second ventilators, whereby temperatures sensed by the first and second temperature sensors are approximately equal.

Claim 29 (new): The ventilation system according to claim 27, wherein the means for balancing comprises:

a first double-acting cylinder incorporating a first piston defining first and second chambers;

a second double-acting cylinder including a second piston connected to the first piston and defining third and fourth chambers;

whereby displacement of the pistons to enlarge the first chamber thereby enlarges the third chamber; and

wherein the means for balancing is further defined with an inlet and an outlet and a means for controlling fluid communication between:

- a. the first channel with the first and fourth chambers;
- b. the second channel with the second and third chambers;
- c. the inlet with the second and third chambers; and
- d. the outlet with the first and fourth chambers.